that charcoal is taken internally for the purpose of absorbing and masking the action of acidulous and soluble gases which may be in excess, and he asks, Why should it not be made the carrier of gaseous bodies suited for the treatment of certain forms of disease, but which under all ordinary methods are either impossible or very difficult to administer?

His late experiments, he states, "have been directed towards this question, and I am decidedly of opinion that charcoal, saturated with various gases, may hereafter become useful remedial agents. The subject is naturally one which cannot be treated lightly, and which requires some extended and patient labour for its proper development; but as far as I have already gone, the results are, in my opinion, most encouraging.

"In these experiments I have exclusively employed boxwood charcoal as a standard material, and I believe it to be about the best adapted for the purpose. When this had been raised to the temperature of ignition for the second time, a current of the particular gas or vapour it is desired to absorb is passed over it, with a gradually increasing pressure, until the retort and its contents are perfectly cold. By particular management the charcoal can be powdered, and even granulated, without being denuded of the gas it has absorbed.

"I am not yet in a position to offer a complete series of experimental results and deductions therefrom, bearing upon the therapeutical value of impregnated charcoal; but perhaps the trial I am about to describe may not be deemed entirely without interest.

"Three healthy young dogs were kept in a large chamber, specially arranged, at a temperature of about 70° F., and were made to breathe large and gradually increasing quantities of pure oxygen for a considerable period (their diet also being carefully looked after), until such time as the heart-action and general appearance of the animals indicated that the oxygen had done its work, and that fibrinous depositions might reasonably be looked for. The animals were removed from the chamber, it being evident that a continued oxygenization would probably have been fatal to all; one was simply set free, and fed as usual, but it died after about a fortnight; a second was killed instantly, and upon being opened, and the heart divided, it was found that all the valves and a number of the cardiac vessels were more or less plugged with fibrinous concretions.

"The third animal was fed and treated as usual, except that *drachm* doses of granular *ammoniated* charcoal were administered, at first three times, and latterly twice a day. In six weeks the dog was not only living, but had recovered its usual health. At the expiration of another fortnight the animal was killed by a blow, and examined. The appearance of the viscera was natural, except a slight renal congestion, and the heart, on being opened, showed hardly a trace of fibrinous deposition; it had *evidently been dissolved away*."—*Medical Press and Circular*, Nov. 6, 1867.

19. *Uses of Bisulphite of Calcium in Pharmacy.*—Mr. W. L. Scott, in a communication read before the British Pharmaceutical Conference, expressed the opinion that the bisulphite of calcium is capable of many useful applications in the pharmaceutical laboratory.

For ointments, a fluidrachm to each pound is quite sufficient to preserve them, while it has no injurious action whatever, and is quite compatible with the great majority of ointments and oily preparations—a remark which does not apply to the alkaline or sulphites or bisulphites which have from time to time been brought forward for similar purposes.

Beef-tea or broth in hospitals, or otherwise, may be prevented from turning sour by stirring in a few drops of the bisulphite of lime solution to each pint of the soup; and the same plan will enable us to keep jellies, which ordinarily decompose so rapidly in the organic germ-laden air of the sick-room, for many days unimpaired; these are, in my opinion, considerations of some moment in all circumstances, but most especially in the habitations of the poor.

Clothes or matting, soaked in the same solution and hung up, act as disinfectants of the most effective kind, and do not exhale the peculiarly unpleasant odour of carbolic acid, or the irritating vapours, so distressing to the bronchial system, of chloride of lime.

I have successfully employed the bisulphite of calcium for the preservation of numerous anatomical and other specimens, as it does its work perfectly, and without occasioning the great changes of colour and contraction of muscular structure so frequently produced by ordinary antiseptics; moreover, its special advantage over the preparations of mercury and arsenic lies, to my thinking, in the fact that it is not poisonous, and can therefore be handled with perfect safety.

There are numerous substances employed in pharmacy—such as musk, castoreum, lard, and other fatty matters—which are more or less injured by decomposition or keeping for any length of time. To these the bisulphite can be applied with considerable advantage.—*Med. Press and Circular*, Nov. 6, 1867.

20. *Mustard Paper.*—M. RIGOLLOT, a Paris pharmacien, has, under the name of *papier sinapisé*, contrived an elegant preparation which embraces all the advantages of the mustard cataplasm without incurring the risk of its inefficiency, owing to the loss of power in the flour of mustard. He has done this by extracting the fixed oil while retaining the rubefacient principle. A piece of the paper of the required size is put in water for a few seconds and placed wet on the part, whereon it is bound with a handkerchief. It does not cost more than the ordinary mustard plaster, and is always ready and promptly efficacious.—*Med. Times and Gaz.*, from *Bull. de Thérap.*, Sept. 30.

MEDICAL PATHOLOGY, SPECIAL THERAPEUTICS, AND PRACTICAL MEDICINE.

21. *Nature of Tubercle.*—There is not at this moment a question of greater interest and urgency than the discussion of the pathology and natural history of pulmonary tubercle. Two opinions confront each other. The first considers all the lesions of the tuberculous lung as dependent on tuberculosis; that these lesions have their seat in the intervesicular walls, or that they reside even in the interior of the vesicle. In the opinion of the German school, on the contrary, tubercle exists exclusively in the wall of the vesicles; and the elements which fill the cell-cavity are epithelial products of inflammatory origin, allied to what is called caseous pneumonia. These opinions were brought into contact at the Paris Congress. M. Villemin ably supported the first doctrine. According to this view, the gray granulation and the matter of caseous pneumonia are equally tuberculous lesions; these elements, which are wrongly distinguished, both proceed from the cell-nuclei which form part of the septum of the vesicles. Those which accumulate in the cavities of the pulmonary alveoli owe to compression the flat surfaces which give them an epithelial aspect; but they are in reality formed of proliferous cells, rapidly undergoing fatty metamorphosis. M. Villemin rejects, besides, the doctrine of the specificity of tuberculous lesions. The granulations have their analogues in those of the syphilitic gummy deposits which have sometimes been confounded with them; and, moreover, the elements which constitute them have their physiological representatives in those of lymph and of the lymphoid tissues. In discussing the question of the inoculability of tubercle, M. Lebert declared that, by injecting into the veins of animals tuberculous products, and other morbid products, such as those of melanosis and carcinoma, or various substances, mercury and charcoal, he has produced embolism in the capillaries of the lung, and has seen inflammatory lesions supervene, of which some resemble those of tuberculosis. M. Berpet (of Cercoux) believed in the transmission of tubercle by respiratory exhalation. M. Seco y Valdor (of Madrid) related several cases he had observed of transmission of phthisis by cohabitation. M. Villemin's experiments, confirmed in most points by those of Mr. Simon and Dr. Marcet in this country, are interesting from all points of view, but especially so from their tendency to throw once more into the arena the question of the nature of pulmonary tuber-